



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,828	12/19/2005	Tomoya Yano	450100-05212	7729
7590 William S Frommer Frommer Lawrence & Haug 745 Fifth Avenue New York, NY 10151		EXAMINER CALEY, MICHAEL H		
		ART UNIT 2871		
		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/530,828

Applicant(s)

YANO ET AL.

Examiner

MICHAEL H. CALEY

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 11-18 is/are rejected.
- 7) ☒ Claim(s) 5-10, 12, 15, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF-08)
Paper No(s)/Mail Date 4/18/05: 3/27/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the in-plane light path length difference of the retardation film" (Page 68 line 4). There is insufficient antecedent basis for this limitation in the claim. It is indeterminable whether the "retardation film" refers to the recited first retardation film or second retardation film.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 11, 13, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyachi (U.S. Patent No. 7,176,999) in view of Yano et al. (U.S. Patent Application Publication No. 2003/0210370 "Yano").

Regarding claim 1, Miyachi discloses a liquid crystal display device comprising:

a pair of polarization plates (Figure 12 elements 12 and 13) each including a polarizer (12a and 13a) and a pair of protective layers (12b and 13b) laminated over the polarizer to protect the latter, the transmission axes of the polarizers being orthogonal to each other (Column 10 lines 44-48), and a liquid crystal plate (11) disposed between the polarization plates, wherein:

each of the protective layers in the pair of polarization plate is a uniaxial retardation film laminated over at least the liquid crystal layer, having the optical axis thereof extended in the direction of its thickness (Column 10 lines 40-44) and which is generally isotropic in a plane perpendicular to the thickness direction to perform as a negative retardation film whose thickness-directional refractive index is smaller than an in-plane directional one (properties of negative uniaxial anisotropy with axis in the normal direction); and

there is disposed between the liquid crystal plane and any one of the polarization plates a biaxial retardation film (16) that compensates the dependence upon the viewing angle of the protective layer upon which light forming an angle with the viewing-angular direction is incident (Column 17 line 63 – Column 18 line 60).

Miyachi fails to explicitly disclose the alignment between the liquid crystal molecules and the absorption axis of one of the polarization plates. Yano, however, teaches parallel alignment between the liquid crystal molecules the absorption axis of one of the polarization plates (Figure 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to align the liquid crystal molecules with the absorption axis of one of the polarization plates. One would have been motivated to align the elements as proposed to allow for blockage and transmission of light in the voltage off/on states according to conventional means (Yano: Paragraph 0055).

Regarding claim 2, Miyachi discloses the biaxial retardation film as directed to vary in refractive index in the plane perpendicular to the direction of its thickness and show a maximum refractive index in that plane (Column 17 line 64; x-y plane) such that the film compensates the dependence upon the viewing angle for incident light forming an angle with viewing-angular direction (Column 18 lines 43-47).

Regarding claim 3, Miyachi discloses the absorption axis of one of the polarization plates as directed in a direction for an abnormal light refractive index of the liquid crystal layer (Column 10 lines 37-52).

Regarding claim 4, Miyachi discloses the liquid crystal layer as configured to turn on in the in-plane switching (IPS) mode (Column 23 lines 39-43).

Regarding claims 11 and 16, Miyachi discloses first and second retardation films wherein the first retardation film is set to have a light path length difference before incident light passes through the liquid crystal layer (Figure 14 element 16a), but fails to explicitly disclose an in-

plane path length difference. Yano, however, teaches the proposed path length difference as optimal for linearly polarized light such as present in the Miyachi reference (Yano: Paragraph 0062).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the retardation plate to have a half wavelength path length difference. One would have been motivated to form the retardation plate as proposed to optimize the plate for use with a linearly polarized light such as taught by Miyachi.

Regarding claim 13, Miyachi discloses the first retardation film (Figure 14 element 16a) as biaxial.

Regarding claim 14, Yano discloses the proposed pretilt (Figure 2 element 4).

Allowable Subject Matter

Claims 5-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12, 15, 17, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and written to overcome the 112 Second Paragraph Rejections.

The following is a statement of reasons for the indication of allowable subject matter:
The prior art fails to disclose or suggest the proposed retardation and orientation characteristics of the retardation films.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL H. CALEY whose telephone number is (571)272-2286. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael H. Caley/
Primary Examiner, Art Unit 2871